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**Central Basin Municipal Water District**

**Proposal for  
Proposition 13  
Urban Water Conservation Program Grant Funds**

*Enhanced Rebates for CII Water Saving  
Devices*

*Zero Water Consumption Urinals*

**Presented to:**

**California Department of Water Resources  
Office of Water Use Efficiency  
1416 Ninth Street, Room 338,  
Sacramento, California 95814  
Attention: Marsha Prillwitz**

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## A-1 Urban Water Conservation Grant Application Cover Sheet

**1. Applicant (Organization or affiliation):** Central Basin Municipal Water District

**2. Project Title:** Enhanced Rebates for CII Water Savings Devices-Zero Water Consumption Urinals

**3. Person authorized to sign and submit proposal:**

<b>Name, Title</b>	<u>Darryl G. Miller, General Manager</u>
<b>Mailing address</b>	<u>17140 S. Avalon Blvd., Suite 210</u> <u>Carson, CA 90746</u>
<b>Telephone</b>	<u>(310) 660-6258</u>
<b>Fax</b>	<u>(310) 217-2414</u>
<b>E-mail</b>	<u>darrylm@wcbwater.org</u>

**4. Contact person (if different):**

<b>Name, Title</b>	<u>Gus Meza, Conservation Coordinator</u>
<b>Mailing address</b>	<u>17140 S. Avalon Blvd., Suite 201</u>
<b>Telephone</b>	<u>(310) 660-6209</u>
<b>Fax</b>	<u>(310) 516-1327</u>
<b>E-mail</b>	<u>gusm@wcbwater.org</u>

**5. Funds requested (dollar amount):** \$780,000

**6. Applicant funds pledged (local cost share) (dollar amount):** \$156,000

**7. Total project costs (dollar amount):** \$936,000

**8. Estimated net water savings (acre-feet/year):** 319 AF

**Estimated total amount of water to be saved (acre-feet):** 6,380 AF

**Estimated Life:** 20 years

**Benefit/cost ratio of project for applicant:** 3.4

**Estimated \$/acre-feet of water to be saved:** \$431

**9. Project life (month/year to month/year):**

Two year program:

- FY 7/01/03 - 6/30/04
- FY 7/01/04 – 6/30/05

The program will target all 24 member cities throughout the Central Basin Municipal Water District.

**10. State Assembly District where the project is to be conducted:**

Central Basin Municipal Water District: 46<sup>th</sup>, 48<sup>th</sup>, 49<sup>th</sup>, 50<sup>th</sup>, 52<sup>nd</sup>, 54<sup>th</sup>, 55<sup>th</sup>, 56<sup>th</sup>, 57<sup>th</sup>, 58<sup>th</sup>, and 60<sup>th</sup>

**11. State Senate District where the project is to be conducted:**

Central Basin Municipal Water District: 22<sup>nd</sup>, 24<sup>th</sup>, 25<sup>th</sup>, 26<sup>th</sup>, 27<sup>th</sup>, 28<sup>th</sup>, 29<sup>th</sup>, and 30<sup>th</sup>

**12. Congressional District(s) where the project is to be conducted:**

Central Basin Municipal Water District: 31<sup>st</sup>, 33<sup>rd</sup>, 34<sup>th</sup>, 35<sup>th</sup>, 37<sup>th</sup>, 38<sup>th</sup>, 39<sup>th</sup>, and 41<sup>st</sup>

**13. County where the project is to be conducted: Los Angeles County.**

**14. Do the actions in this application involve physical changes in land use, or potential future changes in land use? No.**

## A-2 Application Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the application;

The individual signing the form is authorized to submit the application on behalf of the applicant;

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the application on behalf of the applicant; and

The applicant will comply with all terms and conditions identified in this Application Package if selected for funding.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name and title

\_\_\_\_\_  
Date

### **A-3 Application Checklist**

Complete this checklist to confirm all sections of this application package have been completed.

#### **Part A: Project Description, Organizational, Financial and Legal Information**

- ☒ A-1 Urban Water Conservation Grant Application Cover Sheet
- ☒ A-2 Application Signature Page
- ☒ A-3 Application Checklist
- ☒ A-4 Description of project
- ☒ A-5 Maps
- ☒ A-6 Statement of work, schedule
- ☒ A-7 Monitoring and evaluation
- ☒ A-8 Qualification of applicant and cooperators
- ☒ A-9 Innovation
- ☒ A-10 Agency authority
- ☒ A-11 Operation and maintenance (O&M)

#### **Part B: Engineering and Hydrologic Feasibility (construction projects only)**

- ☒ B-1 Certification statement
- ☒ B-2 Project reports and previous studies
- ☒ B-3 Preliminary project plans and specifications
- ☒ B-4 Construction inspection plan

#### **Part C: Plan for Environmental Documentation and Permitting**

- ☒ C-1 CEQA/NEPA
- ☒ C-2 Permits, easements, licenses, acquisitions, and certifications
- ☒ C-3 Local land use plans
- ☒ C-4 Applicable legal requirements

#### **Part D: Need for Project and Community Involvement**

- ☒ D-1 Need for project
- ☒ D-2 Outreach, community involvement, support, opposition

#### **Part E: Water Use Efficiency Improvements and Other Benefits**

- ☒ E-1 Water use efficiency improvements
- ☒ E-2 Other project benefits

#### **Part F: Economic Justification, Benefits to Costs Analysis**

- ☒ F-1 Net water savings
- ☒ F-2 Project budget and budget justification
- ☒ F-3 Economic efficiency

#### **Appendix: Benefit/Cost Analysis Tables**

- ☒ Tables 1; 2; 3; 4a, 4b, 4c, 4d; and 5



## **A-4 Description of Project**

The Central Basin Municipal Water District (CBMWD) is requesting an enhanced rebate program for implementation of a commercial, institutional and industrial (CII) Direct Zero Water Consumption Urinal Install Program for replacement of existing high consumption urinals with new zero water consumption urinals in order to meet its long-term water conservation goals. The proposed program will offer free zero water consumption urinals to CII customers, specifically targeting older facilities which have greater than 1.6 gallons per flush water-fed urinals.

In order to obtain detailed water savings estimates associated with zero water consumption urinals, approximately 100 urinals for each of the 24 member cities and several unincorporated sections of the county which comprise the CBMWD is proposed, for a total replacement of not more than 2600 urinals. CBMWD has a unique opportunity to market and implement a program like this due to the prevalence of commercial and industrial uses within its service area. The Southeastern portion of Los Angeles County is dominated by industrial, institutional, and commercial uses.

The most effective method to implement this project is to operate within the existing CII rebate program. The proposed project will encourage CII customers from each of the 24 member cities of CBMWD to replace inefficient, older pre-1992 water-fed urinals with highly efficient and cost-effective zero water consumption urinals. Focus groups and very low participation in CBMWD and MWD's existing rebate program (which currently offers \$60.00 rebates for zero water consumption urinals) indicate that a turnkey operation is necessary in order to maximize the water savings potential of zero-consumption urinals in the CII sector within CBMWD's service area.

The primary objective is to save water in a cost effective manner that also meets the needs of the District and all of its member cities. Water conservation and water use efficiency are consistent with CBMWD mission statement to provide a safe and reliable water supply at a reasonable cost. The adopted Urban Water Management Plan requires full implementation of all applicable BMPs of the Memorandum of Understanding of the CUWCC. This enhanced rebate program is an important component of the stated water conservation goals of the Urban Water Management Plan and is consistent with BMP 9 of the MOU.

Project objectives include 1) enhancing and obtaining valuable information about the varied needs of CII sector customers; 2) accelerate the purchase and installation of zero water consumption urinals by CII customers through increased participation in the rebate program; 3) reduce imported water demand; 4) reduce stress on the Bay Delta; 5) improve water supply reliability; 6) improve water quality; 7) meet the objectives of the Memorandum of Understanding Regarding Urban Water Conservation in California, and local and regional water management plans.

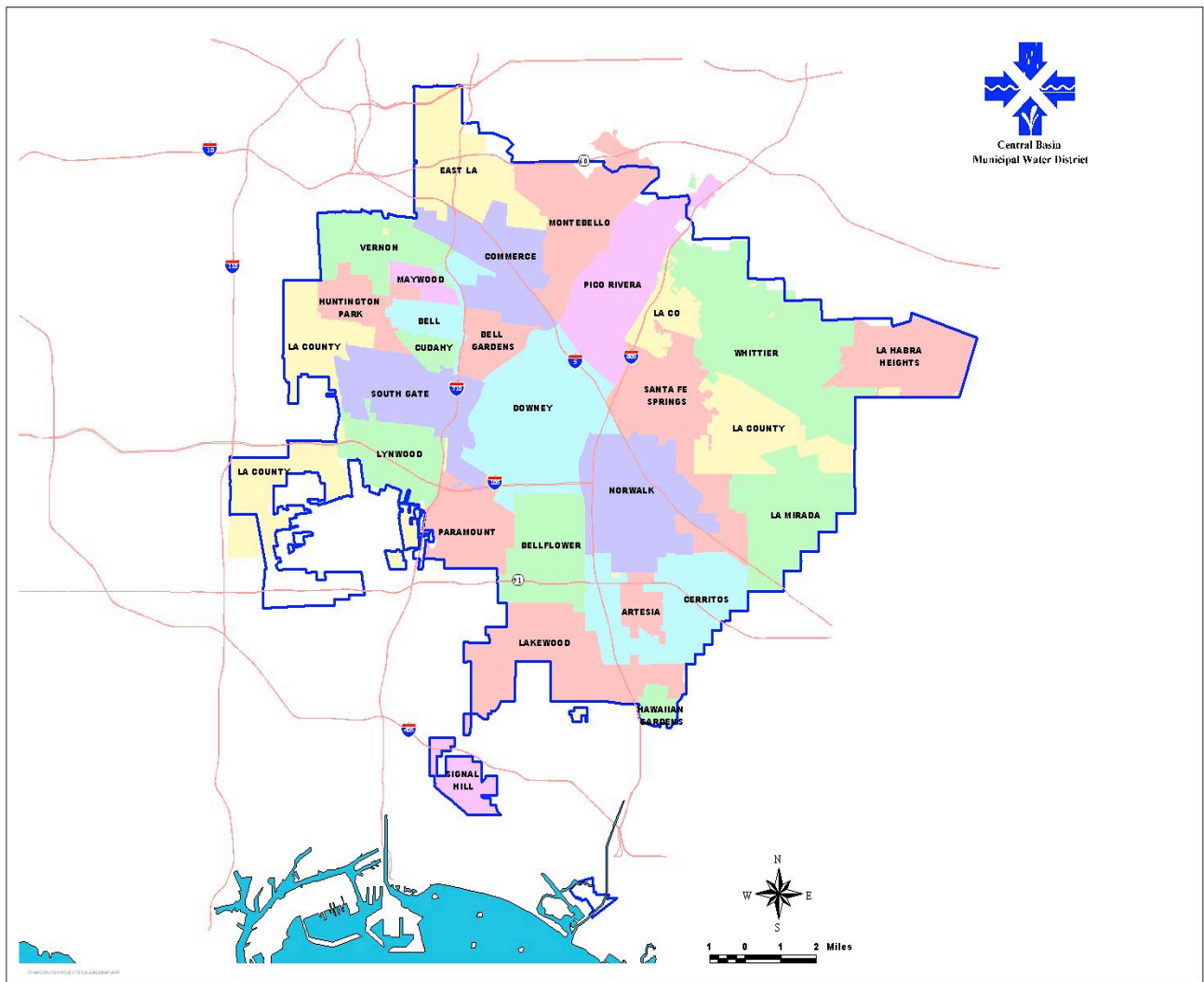
For a total project cost of \$936,000 over the two-year project period, over 6,380 AF of lifetime water savings can be realized for a total avoided cost of purchased water of nearly \$2.75 million.

## A-5 Maps

Below is the District map outlining the member cities that are within the Districts' service areas.

Central Basin Municipal Water District (CBMWD) serves a population of 1.4 million people living within 24 cities in southeast Los Angeles County, as well as unincorporated county areas. The map below outlines CBMWD service area, which includes the cities of Artesia, Bell, Bell Gardens, Bellflower, Cerritos, Commerce, Cudahy, Downey, Hawaiian Gardens, Huntington Park, La Habra Heights, Lakewood, La Mirada, Lynwood, Maywood, Montebello, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon and Whittier.

### Central Basin Municipal Water District



## A-6 Statement of Work, Schedule

This is a 2-year program. Below are the costs and deliverable dates for each fiscal year.

### Fiscal Year 2003-2004 (June 30 – July 1)

Major Program Tasks	Implementation Time Frame	Projected Program Cost w/out Partnership Funding	Projected Program Funding Request	Yearly Expenditure Projection
Enter in Cost-Sharing Partnerships	3/28/03 – 3/26/04	N/A	N/A	N/A
Market Program to CII Customers	4/21/03 – 3/31/04	N/A	N/A	N/A
Purchase 1300 zero water consumption urinals @ \$225	10/9/03 – 5/31/04	\$292,500	\$214,500	\$292,500
Pay for 1300 Installations @ \$75	10/9/03 – 5/31/04	\$97,500	\$97,500	\$97,500
Develop Participant Database	11/3/03 – 5/31/04	\$22,000	\$22,000	\$22,000
Conduct Data Analysis for 1 Year	10/01/03 – 8/31/05	\$46,000	\$46,000	\$46,000
Provide Program Results to DWR, MWD, etc.	10/01/03 – 8/31/05	\$10,000	\$10,000	\$10,000
<b>Total Costs</b>		\$468,000	\$390,000	\$468,000

### Fiscal Year 2004-2005 (June 30 – July 1)

Major Program Tasks	Implementation Time Frame	Projected Program Cost w/out Partnership Funding	Projected Program Funding Request	Yearly Expenditure Projection
Enter in Cost-Sharing Partnerships	11/3/03-5/31/04	N/A	N/A	N/A
Market Program to CII Customers	11/3/03-5/31/04	N/A	N/A	N/A
Purchase 1300 zero water consumption urinals @ \$225	2/2/04-5/31/05	\$292,500	\$214,500	\$292,500
Pay for 1300 Installations @ \$75	5/31/04-6/30/05	\$97,500	\$97,500	\$97,500
Develop Participant Database	5/31/04-6/30/05	\$22,000	\$22,000	\$22,000
Conduct Data Analysis for 1 Year	7/1/04-6/30/05	\$46,000	\$46,000	\$46,000
Provide Program Results to DWR, MWD, etc.	5/4/04-6/30/05	\$10,000	\$10,000	\$10,000
	5/4/04-9/29/06			
<b>Total Costs</b>	5/4/04-9/29/06	\$468,000	\$390,000	\$468,000

*The Enhanced Rebates for CII Water Savings Devices* will offer CBMWD customers free zero water consumption urinals, including installation. The program for urinal retrofit installation will be marketed primarily to existing CII customers who have greater than 1.6 gallon water-fed urinals, as they offer the highest water savings for urinal retrofit.

The contracted price includes the cost of a zero-consumption urinal. There is no out-of-pocket expense to the CII customer, as CBMWD will administer the program as part of the existing CII rebate program.

The objective of this Program is to reduce water and sewer discharge by CBMWD CII customers. A direct mailer will be sent to all CII customers to encourage participation in the program. All customers interested in the program will be provided a free cost benefit analysis of the retrofit. Other marketing efforts include a program brochure, web page, press releases and contractor(s) marketing program. The desired program will provide a meaningful, long-term implementation of a proven technology in the CII sector. The main program objective is to replace 1,300 high consumption urinals per year for a period of two years. Added objectives include obtaining water savings of over

319 Acre Feet per year, reducing demand on imported water for the CBMWD, reducing energy demand, greatly reducing sewage outflow, and helping to meet the goals of local, regional, and statewide water plans.

CBMWD is one of numerous MWD member agencies participating in the Region-wide Program. CBMWD has previously signed an agreement with MWD to participate in this program, and supports program administration by an experienced contractor. The Region-wide Program currently offers rebates to commercial, industrial, and institutional (CII) customers for purchase and installation of a number of water savings devices, including zero water consumption urinals. Prop 13 grant funding would be used to increase rebate levels for zero water consumption urinals to enable purchase and installation to occur at no or very little cost to the CII customer.

To date, CBMWD has not had the opportunity to implement this type of program for several reasons. First, the amount of rebate offered to customers is often not enough to convince customers to replace their high consumption plumbing fixtures. Second, there is a lack of education in the commercial sector with respect to the cost benefits and decreased maintenance costs that can be realized with the use of zero water consumption urinals. Third, and more importantly, many CII customers cannot take the time to hire a contractor, get an estimate, and then submit an application for a rebate. In the eighteen months that CBMWD has partnered with MWD on the Region-wide Commercial Rebate Program and aggressively marketed rebates (for not only urinals but ULFTs as well) to the CII sector, there has been scant interest in the rebate program.

### **A-7 Monitoring and Evaluation**

A qualified contractor will perform pre and post surveys of all sites receiving urinals from the Proposed Program. Pre-site surveys will determine average water use per day from the existing high consumption urinals at selected sites, and post-site evaluations will determine average water savings from the new waterfree urinals, as well as verify proper urinal installation. Water savings from the program will be calculated based on the cumulative water savings from the average number of flushes per day at each site before and after urinal installation over the useful life of the urinal.

The monitoring of the program will be coordinated through the Agency's existing Commercial Conservation Program. Because this program will be an integral part of the California Urban Water Conservation Council (CUWCC) evaluation of CII programs, the data collected for the program will follow the guidelines of Best Management Practices (BMP) 9 of the CUWCC Memorandum of Understanding. Data to be collected as part of this project will include:

- The number of accounts and amount of water used within each CII sector, participant information (account number, name and address and type of facility), and number of urinals being replaced;
- Number of CII urinals replaced or distributed per year by CII sub sector;
- Total program costs per year, including labor, materials, marketing, and overhead services;
- Total program budget per year;

- Program funding sources per year, including intra-agency funding mechanisms, inter-agency cost sharing, state and federal financial assistance sources;
- Descriptions of the program design and implementation, such as marketing and advertising method and levels, customer targeting methods, customer contact methods, use of outside services, and participation tracking/follow-up; and
- Description of the program acceptance/resistance by customers, obstacles to implementation, and other issues affecting the program implementation or effectiveness.

Task	Task Name	Task Description
1	<b>Project Planning</b>	
	CII customer identification	Mailing list of CII customers to participate in the program
	RFP development	Develop RFP for contractor proposals for a variety of urinal installations for CII customers.
	Contractor Selection	RFP selection of the best contractor proposal for urinal installation.
2	<b>Program Administration</b>	
	Direct mail CII customers	Develop flier, brochure, and website for the program,
	Promotional urinal site listing	List of urinal installations for potential participants to evaluate
	Pre site survey and inspection	Perform water use site survey and confirm program eligibility
	Issue vouchers for CII urinals	Develop program vouchers to issue to participant redeemable from contractor for urinals
	Post site survey and inspection	Post site survey evaluating water conserving measures installed
3	<b>Direct Install Implementation</b>	
4	<b>Data Collection</b>	
	Site Data	Develop ACCESS database for all participants. Data to include items listed in Section B6 below
	Water Use Data	Develop water savings calculation for each site receiving urinals
	Post Installation Questionnaire	Develop a post participation questionnaire to assess the program
	Provide Data	All data collected will be provided to the CUWCC for use in their evaluation report

The Direct install program will target the replacement of 1,300 high-water-using urinals with zero-consumption urinals in the CII sectors each year, for a two year period. Since water savings are dependant on the type of high consumption retrofitted with a zero consumption urinal, a conservative average savings of 40,000 gallons per year per urinal is being used. For the first year, the annual water savings is estimated to be 159 Acre Feet and 319 Acre Feet for the second year. Therefore, the cumulative water savings for the 2,600 CII urinal installations is 6,382 Acre Feet (40,000 gallons per urinal/year\*2,600 urinals\*20 years) over the 20-year useful life of the urinals.

## **A-8 Qualifications of the Applicant and Cooperators**

See attached Resumes. (Appendix A)

## **A-9 Innovation**

The grant proposal would accelerate the use of a proven technology, the zero water consumption urinal, in a key sampling of CII sectors. Because CBMWD has 24 member cities, most of which have varied and well established commercial, institutional, and industrial uses, there is a unique opportunity for these CII customers to be targeted with a proven water conservation technology.

The use of urinals in almost all CII facilities is commonplace. The results of the water savings and cost savings analysis for the 24 member cities which comprise the CBMWD has the potential to help water agencies throughout California successfully implement BMP 9 of the CUWCC MOU. Because CBMWD has a varied mix of cities in the Southeastern portion of Los Angeles County, with heavy industrial uses and several large institutional uses, the program has the potential to be the first comprehensive analysis of this proven technology in a broad application.

## **A-10 Agency Authority**

Address the following five questions pertaining specifically to this application.

1. Does the applicant (official signing A-2, Application Signature Page) have the legal authority to submit an application and to enter into a funding contract with the State? Provide documentation such as an agency board resolution or other evidence of authority.

The Central Basin Board of Directors has authorized and approved a board resolution for this project. (See Appendix B)

2. What is the legal authority under which the applicant was formed and is authorized to operate?

In the early 1950's, the agency was charged with preserving underground water supplies and finding supplemental water recommended establishment of the Districts. The recommendation was approved by the voters and the District was formed to find supplemental water to bring to the region.

3. Is the applicant required to hold an election before entering into a funding contract with the State?

No.

4. Will the funding agreement between the applicant and the State be subject to review and/or approval by other government agencies?

No.

5. Is there any pending litigation that may impact the financial condition of the applicant, the operation of the water facilities, or its ability to complete the proposed project?

No.

#### **A-11 Operations and Maintenance**

This section is not applicable.

#### ***Application Part B—Engineering and Hydrologic Feasibility***

This section is not applicable.

##### **B-1 Certification Statement**

##### **B-2 Project Reports and Previous Studies**

##### **B-3 Preliminary Project Plans and Specifications**

##### **B-4 Construction Inspection Plan**

Sections B-1 through B-4 are not applicable.

#### ***Application Part C—Plan for Completion of Environmental Documentation and Permitting Requirements***

Sections C-1 through C-4 are not applicable.

##### **C-1 California Environmental Quality Act and National Environmental Policy Act**

##### **C-3 Local Land Use Plans**

##### **C-2 Permits, Easements, Licenses, Acquisitions, and Certifications**

##### **C-4 Applicable Legal Requirements**



## ***Application Part D- Need for Project and Community Involvement***

### **D-1 Need for the Project**

CBMWD's service area in the southeastern portion of Los Angeles County contains some of the largest industrial and institutional uses in Southern California. As the industrial demands of this region continue to grow with the projected growth in population, the need for reliable potable water supplies will also dramatically increase.

Water usage within the CBMWD service area is about 265,000 AF of water per year, of which 100,000 is imported from the Metropolitan Water District of Southern California (MWD). Without local conservation, recycling, and groundwater conjunctive use program's, the regions need for additional imported water from MWD is expected to increase.

CBMWD is committed to implementing local projects that will reduce the region's dependence on imported MWD water supplies. CBMWD completed an Urban Water Management Plan that sets the goal of conserving water. Conservation is a critical element in this regional strategy.

CBMWD has had a water conservation program since 1989, and has replaced nearly 50,000 toilets in ULFT rebate and distribution programs to residential customers throughout the District. Much of the anticipated future water savings are from the CII sector as the residential sector has begun to achieve market saturation due to successful rebate and replacement programs as well as natural replacement.

Rebates that address these higher costs for existing and new commercial customers will result in immediate and sustainable water savings through increased program participation.

CBMWD proposes to offer a regional rebate program within its 227-square mile service area for the retrofit of up to 2600 zero-water consumption urinals. As a result of this rebate program, the District expects to conserve nearly 104,000,000 gallons of water per year or 319 AF annually. The proposed program is locally cost effective and has a Benefit-Cost ratio of 3.4. The program also fulfills the requirements of BMP 9 for Commercial, Industrial, and Institutional Conservation programs.

The proposed rebate program is not a demonstration project. It will provide hard water savings at a cost effective price. If the grant request is funded, CBMWD will offer a rebate of \$300.00 to cover the purchase and installation cost of zero-water consumption urinals.

Zero Water consumption urinals represent a significant conservation opportunity. To date, even with an existing rebate of \$60.00 offered by MWD, not one zero water consumption urinal within the CBMWD service area has been retrofitted. By providing the additional funding to enhance the rebate to cover the costs of both the purchase and installation of these urinals for retrofit, the State of California Department of Water Resources is significantly adding to the water solution for California.

MWD receives water that is allocated from the Bay Delta and the Colorado River. Any water conserved by the District will directly improve the Bay Delta and the Colorado River Basin.

Over the years, the District has distinguished itself with one of the nation's largest recycled water programs, the Central Basin Recycled Water Project. Non-potable application of recycled water includes irrigation, commercial and municipal use, and industrial processes. This proposed grant application gives the District an opportunity to provide a proven conservation technology to this same CII customer base. The District will use this knowledge to continue conducting and improving future CII programs in its region.

This program has been designed to meet the needs and concerns of various communities, organizations, and environmental groups that are concerned about water conservation and urban run-off. Following are some of the needs it satisfies:

- This program has been designed to satisfy numerous Best Management Practices (BMPs) of the California Urban Water Conservation Council. Our Districts have been signatories to the Memorandum of Understanding since 1991. This program meets a portion or all of the following BMPs:
  - BMP 9
  - BMP 10
- The District has developed water conservation goals as part of its Urban Water Management Plan. By the year 2020, it is the goal of the Districts to reduce water demands by 12 percent in the Central Basin District. These reductions will be accomplished by implementing various water conservation programs that are cost-effective, meet the BMPs, and also meet the needs of our sub-agencies and residents. This program will help the Districts meet its responsibility of reducing water demands.
- The reduced indoor water use in numerous CII applications will greatly reduce sewage outflow and infrastructure degradation.
- Reduce the regions dependence on imported water from the Colorado River, Bay Delta System, and underground water.

## **D-2 Outreach, Community Involvement, Support, Opposition**

As a wholesale water agency, CBMWD has developed its conservation program with the 24 cities that serve as the water retailers for the service area. The conservation program is strongly supported by these member agencies. The proposed project has been developed with the full involvement of CBMWD's member agencies. They have agreed to help promote the program and to provide staff support as necessary. Outreach efforts may include a press conference announcing the availability of the rebate, advertising through member agency newsletters and publications, local cable television spots, and publicity through local papers. Program advertising will feature two messages: the value of conserving water to CII customers within the CBMWD service area and the environmental and economic benefits of the rebate program.

The Central Basin Municipal Water Districts has partnered with the Metropolitan Water District (MWD) and cities to provide CII customers within our service areas with free zero water consumption urinals and installation.

The District and MWD will be offering the free program to all 24 member cities. The District and cities will market the program to their business community via the internet, newsletter, flyers, bill stuffers, door hangers, and other local community means. Information regarding native plant dealers will be provided to the class participants.

This program meets the local goals of cities, sanitation districts, water quality control boards, water agencies, and environmental groups, which is to conserve water and to reduce sewage outflow.

The District has not identified any negative third party outcomes.

### ***Application Part E—Water Use Efficiency Improvements and Other Benefits***

#### **E-1 Water Use Efficiency Improvements**

When compared with other indoor plumbing devices for the CII sector, zero water consumption urinals appear to be the most cost effective retrofit device available. While water saving estimates for self-closing faucet retrofits range from 3 gpd to 45 gpd and estimates for ULFT retrofits range from 15 gpd to 57 gpd, (based on the CUWCC July 2000 BMP Guide), the estimates for zero water consumption urinals range from 8gpd to 131 gpd.

The District realizes the water savings that can be achieved through conducting this type of program directed at the CII sector. While the technology has been successfully utilized in individual applications throughout the State, the Prop 13 grant will allow the external water savings to be comprehensively estimated.

Besides water savings, the zero water consumption urinals will greatly reduce the wastewater treatment and energy costs. Conserving water helps to ensure that this important resource will be available for many generations to come. Conserving water also saves energy- the energy needed to treat, transport, and treat wastewater.

Water savings through this program will be quantifiable. Studies will be conducted to see how much water savings was achieved by the installation of the zero water consumption urinals.

## **E-2 Other Project Benefits**

Other benefits besides water savings include the following:

- Conservation reduces demands on water diversions from the Bay Delta and the Colorado River. When less water is diverted, water quality in the Delta improves and more water is available for the delicate ecosystem that relies on it.
- Partnerships to conserve water are built. The Districts working with MWD will be able to include the local cities, making this program more localized.
- Free Zero Water Consumption Urinals and Installation will be provided.
- Local groups and contractors will be sought to assist with the implementation of the program.
- The program will be heavily marketed to educate the public about DWR and the benefits derived from Proposition 13.
- Local cities will be able to showcase the program and highlight the results of the program in their newsletters and other community information materials.

## ***Application Part F – Economic Justification: Benefits to Costs***

### **F-1 Net Water Savings**

Studies by the Federal Energy Management Program (FEMP) and the Department of Defense Energy and Engineering Division have summarized the testing of waterless urinals in more than 40 federal facilities around the country. These studies reported favorable overall responses to these fixtures. Actual water savings vary at each installation because of differences in the types of urinals replaced and the amount of usage. While these Federal studies estimate average savings of 43,680 gallons per fixture per year, and one of the zero water consumption urinal companies estimates average savings of 45,000 gallons per year, this proposal uses a slightly more conservative estimate of 40,000 gallons of water saved per urinal per year.

### **Quantifiable Water Savings**

2,600 urinals x 40,000 gallons per year x 20 year useful-life / 326,000 gallons per acre-foot = 6,380 acre-feet water savings.

### **Avoided Cost of Purchased MWD / Bay-Delta Water**

6,380 acre-feet saved x \$431 per acre-foot (MWD) = \$2,749,938

## F-2 Project Budget and Budget Justification

### Project Budget

#### 2 Year Program Funding Breakdown

** # of Zero Water Consumption Urinals	Cost of Urinal	Sub-Total Cost of Urinals	Cost of Installation	Sub-Total Cost of Installation	Program Costs	Total Cost
108	\$225	\$ 24,300	\$75	\$ 8,100	\$6,480	\$38,880
108	\$225	\$ 24,300	\$75	\$ 8,100	\$6,480	\$38,880
108	\$225	\$ 24,300	\$75	\$ 8,100	\$6,480	\$38,880
108	\$225	\$ 24,300	\$75	\$ 8,100	\$6,480	\$38,880
108	\$225	\$ 24,300	\$75	\$ 8,100	\$6,480	\$38,880
108	\$225	\$ 24,300	\$75	\$ 8,100	\$6,480	\$38,880
108	\$225	\$ 20,000	\$75	\$ 8,100	\$6,480	\$38,880
108	\$225	\$ 20,000	\$75	\$ 8,100	\$6,480	\$38,880
108	\$225	\$ 20,000	\$75	\$ 8,100	\$6,480	\$38,880
108	\$225	\$ 20,000	\$75	\$ 8,100	\$6,480	\$38,880
108	\$225	\$ 20,000	\$75	\$ 8,100	\$6,480	\$38,880
112	\$225	\$ 25,200	\$75	\$ 8,400	\$6,720	\$40,320
Total Cost	\$ 468,000					

Year 2 would be identical to Year 1 above

\*\* Each line represents one city in Central Basin's service area, which totals 1,300 urinals per year.

<b>2 Year Program - Total Cost</b>	<b>936,000</b> \$
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Funding Partners	Total # of Controller	Total Cost Sharing
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MWD (\$60 rebate / fixture)	2,600	\$ 156,000
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Total	\$ 156,000
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Funding Partners Cost Sharing	156,000
Amount	
<b>Funding</b>	<b>780,000</b>

### F-3 Economic Efficiency

The Prop 13 grant for enhanced rebates for zero water consumption urinals to be installed within all 24 member cities of the CBMWD will yield benefits to all participants.

The participants in this program will receive free zero water consumption urinals and installation that will reduce their water consumption, which will reduce their water bills. The reduction in water consumption will also result in a quantifiable reduction in sewer outflow and a reduction in wastewater treatment costs.

By providing all program benefits free of charge, the District believes the participants will be more willing to participate in the program.

Direct Participant Benefits	<ul style="list-style-type: none"> <li>Free urinal retrofits to replace older inefficient water-fed models.</li> <li>Free maintenance training</li> <li>Lower water bill and sewer bills, No out-of-pocket cost</li> <li>Sanitary, hygienic newer restroom facilities</li> </ul>
Indirect Environmental Benefits	<ul style="list-style-type: none"> <li>Reduced wastewater treatment costs</li> <li>Conservation, and Improved water quality</li> </ul>
Local City Benefits	<ul style="list-style-type: none"> <li>Free community services</li> <li>Participation in a conservation / environmental program</li> <li>Partnering with local and state agencies to conserve water.</li> </ul>
District Benefits	<ul style="list-style-type: none"> <li>Water Conservation, Cost-effective CII indoor water use efficiency program, Build partnerships with DWR, cities, residents, and others</li> <li>Meeting Mission Statement goals</li> </ul>
Department of Water Resources	<ul style="list-style-type: none"> <li>Funding a local cost-effective program</li> <li>Allowing for the Water Districts and cities to work together on a local conservation program.</li> </ul>

The following cost-effective analysis is based on the future avoided cost of Metropolitan Water District water, and the total program cost.

**Quantifiable Water Savings**

2,600 zero water consumption urinals x 40,000 gallons per year x 20 year useful-life / 326,000 gallons per acre-foot = 6,380 acre-feet water savings.

**Avoided Cost of Purchased MWD / Bay-Delta**

6,380 acre-feet saved x \$431 per acre-foot (MWD) = \$2,749,780



## ***Appendix- Benefit/Cost Analysis Tables***

Table 1: Capital Costs

Table 2: Annual Operations and Maintenance Costs

Table 3: Total Annual Costs

Table 4a: Water Supply Benefits: Avoided Cost of Current Supply Sources

Table 4b: Water Supply Benefits: Alternative Cost of Future Supply Sources

Table 4c: Water Supply Benefits: Water Supplier Revenue (Vendibility)

Table 4d: Total Water Supply Benefits

Table 5: Benefit/Cost Ratio

Table 6: Capital Recovery Factor

**Table 1: Capital Costs**

	<b>Capital Cost Category (a)</b>	<b>Cost (b)</b>	<b>Contingency Percent (c)</b>	<b>Contingency \$ (d) (bxc)</b>	<b>Subtotal (e) (b+d)</b>
(a)	Land Purchase/Easement				
(b)	Planning/Design/Engineering				
(c)	Materials/Installation (2,600 urinals)	\$780,000			\$780,000
(d)	Structures				
(e)	Equipment Purchases/Rentals				
(f)	Environmental Mitigation/Enhancement				
(g)	Construction/Administration / Overhead	\$156,000			\$156,000
(h)	Project Legal/License Fees				
(i)	Other - 1 Year controller paging service	\$0			
<b>(j)</b>	<b>Total (1) (a + ... + i)</b>	<b>\$936,000</b>			<b>\$936,000</b>
(k)	Capital Recovery Factor: use Table 6 = .0872	.0872		.	.0872
(l)	<b>Annual Capital Costs (j x k) (2 year program)</b>	<b>\$81,619/ 2 yrs = \$40,809</b>			<b>\$40,809</b>

(1) Costs must match Project Budget prepared in Section F-2.

**Table 2: Annual Operations and Maintenance Costs**

<b>Administration (a)</b>	<b>Operations (b)</b>	<b>Maintenance (c)</b>	<b>Other (d)</b>	<b>Total (e)</b>
	\$0	\$0	\$0	\$0

**Table 3: Total Annual Costs**

<b>Annual Capital Costs (1) (a)</b>	<b>Annual O&amp;M Costs (2) (b)</b>	<b>Total Annual Costs (c) (a+b)</b>
\$40,809		\$40,809
\$0		\$0

(1) From Table 1 line (l)

(2) From Table 2 Total, column (e)

**Table 4: Water Supply Benefits**Total Water Savings (acre-feet/20 years) 6,380 AFNet water savings (acre-feet/year) 319**4a. Avoided Costs of Current Supply Sources**

Sources of Supply  (a)	Cost of Water (\$/AF)  (b)	Annual Displaced Supply (AF)  (c)	Annual Avoided Costs (\$)  (d) (b x c)
MWD Supply	\$431	319 AF	\$137,489
Total			\$137,489

**4b. Alternative Costs of Future Supply Sources**

No Alternative Programs. This table does not apply.

Future Supply Sources  (a)	Total Capital Costs (\$)  (b)	Capital Recovery Factor (1)  (c)	Annual Capital Costs (\$)  (d) (b x c)	Annual O&M Costs (\$)  (e)	Total Annual Avoided Costs (\$)  (f) (d + e)
Total					

(1) 6% discount rate; Use Table 6- Capital Recovery Factor



**Table 5: Benefit/Cost Ratio**

<b>Project Benefits (\$) (1)</b>	<b>\$137,489</b>
<b>Project Costs (\$) (2)</b>	<b>\$40,809</b>
<b>Benefit/Cost Ratio</b>	<b>3.4</b>

**(1) From Tables 4d, row (d): Total Annual Water Supply Benefits**

**(2) From Table 3, column (c) : Total Annual Costs**

**Table 6: Capital Recovery Factor**  
**(Use to obtain factor for Table 1, Line k or Table 4b, Column (c))**

<b>Life of Project (in years)</b>	<b>Capital Recovery Factor</b>
7	0.1791
8	0.1610
9	0.1470
10	0.1359
11	0.1268
12	0.1193
13	0.1130
14	0.1076
15	0.1030
16	0.0990
17	0.0954
18	0.0924
19	0.0896
20	0.0872
21	0.0850
22	0.0830
23	0.0813
24	0.0797
25	0.0782
26	0.0769
27	0.0757
28	0.0746
29	0.0736
30	0.0726
31	0.0718
32	0.0710
33	0.0703
34	0.0696
35	0.0690
36	0.0684
37	0.0679
38	0.0674
39	0.0669
40	0.0665
41	0.0661
42	0.0657
43	0.0653
44	0.0650
45	0.0647
46	0.0644
47	0.0641
48	0.0639
49	0.0637
50	0.0634

## Appendix

### Appendix A – Resumes

## Appendix

### Appendix B –Central Basin Board Resolution



## Appendix

### Appendix C – Letters of Support

Letters of support to follow. Please include any letters received after the submittal of proposal.